

NOTES

- 1. High-alert medications require additional safeguards including independent double-checks, specific storage instructions, and label requirements to enhance patient safety and reduce errors that may lead to the possibility of serious harm. The Shared Health Provincial Clinical Standard for High-Alert Medications (HAM) has been developed to promote the safe prescribing, labelling, packaging, storage, preparation, administration, and monitoring of high-alert medications. This clinical standard and HAM list are applicable to all provincial clinical areas, including Emergency Response Services (ERS).
- 2. Appendix A includes the medications that are used by ERS during primary response and the exceptions under which they are exempt from some aspects of the clinical standard.
 - For example, medications required during cardiac resuscitation do not require an independent double-check. However, paramedics should still ensure that all other safe medication administration principles are followed (H04).
- 3. Reference H03.1 contains the Shared Health clinical standard, while H03.2 contains the most recent listing of highalert medications, some of which paramedics may encounter during interfacility transfer.
- 4. Except as noted above, an **independent double-check** is mandatory when preparing and administering a high-alert medication, including a double-check of all calculations performed. The double check must always include visual as well as verbal verification.
 - The paramedic who will be administering the high-alert medication must be one of the two individuals who perform the independent double-check.
- 5. If a paramedic is working alone, they must perform a **self-check** when preparing and administering a high-alert medication.
 - If possible, they should perform another unrelated task between the initial calculations, medication preparation, and self-checking. This is referred to as a **time-out**.
- 6. ERS requires a double-check when certain medications are given to pediatric patients, regardless of the route.
- 7. During medication preparation, the double-check must include:
 - The correct medication and concentration
 - The correct volume of medication needed
 - The correct type and volume of diluent (if applicable)
 - The correct volume and concentration of the finished preparation
- 8. Infusion labelling must include:
 - The drug name, dose, concentration, and volume
 - The diluent type and volume (if applicable)
 - The patient's name
 - The initials of both paramedics
- 9. During medication administration, the double-check must include:
 - The correct patient

- The correct medication and concentration
- The correct dose
- The correct route of administration
- The correct time (if applicable)

In addition, the double-check of all intermittent and continuous infusions must also include:

- The correct rate of administration
- The correct pump settings
- The correct administration set
- 10. Double-checks of infusions are required when:
 - Establishing the infusion
 - The rate or dose is changed
 - The infusion container is changed
- 11. The paramedic who prepared the medication and the paramedic who performed the double-check must both sign the patient care record (PCR).

LINKS / REFERENCES

- H03.1 SHARED HEALTH PROVINCIAL CLINICAL STANDARD FOR HIGH-ALERT MEDICATIONS https://healthproviders.sharedhealthmb.ca/files/ham-standard.pdf
- H03.2 PROVINCIAL HIGH-ALERT MEDICATIONS LIST https://healthproviders.sharedhealthmb.ca/files/ham-provincial-list.pdf
- H04 SAFE MEDICATION ADMINISTRATION

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VERSION CHANGES (refer to X01 for change tracking)

- Appendix A revised to include medications used for emergency situations
- Medications likely to be encountered on IFT listed in reference H03.2

APPENDIX A: HIGH ALERT MEDICATION IN PRIMARY RESPONSE	
AGENT	EXCEPTION (DOES NOT REQUIRED DOUBLE-CHECK / SELF-CHECK)
Amiodarone (M14)	IV direct during resuscitation
Calcium chloride (M26)	IV direct during resuscitation
Dextrose (M06.2)	IV direct
Enoxaparin (M43)	Subcut / IM from prefilled syringe
Epinephrine (M05.2)	IV direct during resuscitation; IM / autoinjector (anaphylaxis, asthma)
Fentanyl (M03.2)	IV direct / subcut / IM from vials containing 100 mcg or less (adults only) ⁶
Ketamine (M17)	IV direct (adults only) ⁶
Magnesium sulfate (M24)	IV direct
Midazolam (M07.1)	IV direct (adults only) ⁶
Morphine (M03.1)	IV direct / subcut / IM from vials containing 15 mg or less (adults only) ⁶
Nitroglycerin (M21)	Sublingual or transdermal
Oxytocin (M16)	Postpartum
Sodium bicarbonate (M18)	IV / IO direct during resuscitation

For the purposes of this policy, *IV direct* is the administration of a medication, usually over less than 5 to 10 minutes, through an injection site adjacent to the needle, catheter or intraosseous device, or directly into a vein.